IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Apparatus ~~(1)~~ for treating chemical substances in a microwave field, ~~having~~ comprising:

- a microwave chamber ~~(9)~~, in which microwave radiation acts on the substances,

- a container ~~(12)~~, which extends at least partly in the microwave chamber ~~(9)~~, for receiving the substances to be treated, and

- a device for spirally transporting the substances in the container ~~(12)~~.

2. (Currently Amended) Apparatus ~~(1)~~ for treating chemical substances in a microwave field, ~~having~~ comprising:

- a microwave chamber ~~(9)~~, in which microwave radiation acts on the substances,

- a flow-through container ~~(12)~~, which extends at least partly in the microwave chamber ~~(9)~~, for receiving the substances, and

a mixing device ~~(61)~~ for thorough mixing of the substances while they are being transported in the axial direction through the flow-through container.

3. (Currently Amended) Apparatus according to Claim 1 ~~or 2, characterised in that~~ wherein the spiral ~~guide or the mixing device (61) is realised by~~ device comprises a conveyor worm.

4. (Currently Amended) Apparatus according to Claim 3, ~~characterised in that~~ wherein the conveyor worm ~~brings~~ comprises a rotary drive to ~~about~~ effect forced conveyance of the substances in the flow-through container ~~(12) as a result of a rotary drive (58)~~.

5. (Currently Amended) Apparatus according to ~~one of the preceding Claims 2 to 4, characterised in that~~ Claim 3, wherein the flow-through container ~~(12)~~ is ~~of hollow-cylindrical design~~ a hollow cylinder and the conveyor worm is arranged with little play in the flow-through container.

6. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that the~~ Claim 1, wherein a longitudinal dimension, extending in the microwave chamber, of the flow-through container ~~(12)~~ and of the spiral guide ~~or of the conveyor worm~~ is a multiple of ~~the~~ an inner cross-sectional dimension of the flow-through container ~~(12), in particular at least 5 times or at least 10 times the inner cross-sectional dimension~~.

7. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that it~~ Claim 1, wherein said apparatus is arranged vertically or such that it can be inclined and locked in ~~the respective~~ an inclined position.

8. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that~~ Claim 1, wherein the flow-through container ~~(12)~~ is connected ~~in its end regions~~ at respective ends to an axial or radial flow-through line section ~~(21; 45)~~, respectively.

9. (Currently Amended) Apparatus according to Claim 8, ~~characterised in that~~ wherein the axial flow-through line section ~~(21)~~ passes through a ~~preferably horizontal~~ housing wall ~~(4d)~~ bounding the microwave space ~~(9)~~.

10. (Currently Amended) Apparatus~~, in particular~~ according to ~~one of the preceding claims, characterised in that~~ Claim 1, wherein the flow-through container ~~(12) and preferably also the conveyor worm protrude~~ protrudes from the microwave chamber ~~(9)~~.

11. (Currently Amended) Apparatus according to Claim 10, ~~characterised in that~~ wherein an inlet or outlet for the flow-through container ~~(12)~~ is arranged in the protruding end region of the flow-through container ~~(12)~~.

12. (Currently Amended) Apparatus according to ~~one of the preceding claims, characterised in that the~~ Claim 1, wherein a treatment chamber ~~(13a) of~~ is defined in the flow-through container ~~(12) is~~ and is connected to a pressure-limiting valve ~~(44), which is preferably adjustable~~.

13. (Currently Amended) Apparatus according to Claim 12, ~~characterised in that~~ wherein the pressure-limiting valve ~~(44)~~ is arranged in a flow-through line section~~, in particular in an outlet line section, and is preferably displaceable so far that in its open position it frees the flow-through line~~.

14. (Currently Amended) Apparatus according to ~~one of Claims 10 to 13, characterised in that~~ Claim 10, wherein a cooling or heating device ~~(35)~~ is arranged in ~~that~~ a region of the flow-through container ~~(12)~~ which protrudes from the microwave chamber ~~(9)~~.

15. (Currently Amended) Apparatus according to ~~one of the preceding Claims 10 to 14, characterised in that~~ Claim 10, wherein a connecting piece ~~(42)~~ is arranged in ~~that~~ a region of the flow-through container ~~(12)~~ which protrudes from the microwave chamber ~~(9)~~.

16. (Currently Amended) Method for treating chemical substances in a microwave field, ~~in which~~ comprising the steps of

- providing microwave radiation ~~acts~~ acting on the substances in a microwave chamber ~~(9)~~,

- moving the substances ~~move~~ in translatory fashion in a container ~~(12)~~ which extends at least partly in the microwave chamber ~~(9)~~, and

- further actively moving the substances in the container ~~(12) are, furthermore, moved actively~~ in a direction transversely to the direction of translation.

17. (Currently Amended) Method for treating chemical substances in a microwave field, ~~in which~~ comprising the steps of

- providing microwave radiation ~~acts~~ on the substances in a microwave chamber ~~(9)~~,

- moving the substances ~~move~~ in a container ~~(12)~~ which extends at least partly in the microwave chamber ~~(9)~~, and

- further actively mixing the substances in the container ~~(12) are, furthermore, mixed actively~~ by a mixing device ~~(61)~~.

Please add new claims 18-44, as follows.

18. (New) Apparatus according to Claim 6, wherein said longitudinal dimension is at least five times said inner cross-sectional dimension.

19. (New) Apparatus according to Claim 6, wherein said longitudinal dimension is at least ten times said inner cross-sectional dimension.

20. (New) Apparatus according to Claim 9, wherein the housing wall is horizontal.

21. (New) Apparatus according to Claim 10, wherein the spiral device protrudes from the microwave chamber.

22. (New) Apparatus according to Claim 12, wherein the pressure-limiting valve is adjustable.

23. (New) Apparatus according to Claim 13, wherein the pressure limiting valve is arranged in an outlet line section.

24. (New) Apparatus according to Claim 13, wherein the pressure-limiting valve is displaceable so far that in an open position it frees the flow-through line.

25. (New) Apparatus according to Claim 2 wherein the mixing device is a conveyor worm.

26. (New) Apparatus according to Claim 25, wherein the conveyor worm comprises a rotary drive to effect forced conveyance of the substances in the flow-through container.

27. (New) Apparatus according to Claim 25, wherein the flow-through container ~~(12)~~ is a hollow cylinder and the conveyor worm is arranged with little play in the flow-through container.

28. (New) Apparatus according to Claim 2, wherein a longitudinal dimension, extending in the microwave chamber, of the flow-through container and of the spiral guide is a multiple of an inner cross-sectional dimension of the flow-through container.

29. (New) Apparatus according to Claim 28, wherein said longitudinal dimension is at least five times said inner cross-sectional dimension.

30. (New) Apparatus according to Claim 28, wherein said longitudinal dimension is at least ten times said inner cross-sectional dimension.

31. (New) Apparatus according to Claim 2, wherein said apparatus is arranged vertically or such that it can be inclined and locked in an inclined position.

32. (New) Apparatus according to Claim 2, wherein the flow-through container is connected at respective ends to an axial or radial flow-through line section, respectively.

33. (New) Apparatus according to Claim 32, wherein the axial flow-through line section passes through a housing wall bounding the microwave space.

34. (New) Apparatus according to Claim 33, wherein the housing wall is horizontal.

35. (New) Apparatus according to Claim 2, wherein the flow-through container protrudes from the microwave chamber.

36. (New) Apparatus according to Claim 35, wherein the mixing device protrudes from the microwave chamber.

37. (New) Apparatus according to Claim 35, wherein an inlet or outlet for the flow-through container is arranged in the protruding end region of the flow-through container.

38. (New) Apparatus according to Claim 2, wherein a treatment chamber is defined in the flow-through container and is connected to a pressure-limiting valve.

39. (New) Apparatus according to Claim 38, wherein the pressure-limiting valve is adjustable.

40. (New) Apparatus according to Claim 38, wherein the pressure-limiting valve is arranged in a flow-through line section.

41. (New) Apparatus according to Claim 40, wherein the pressure limiting valve is arranged in an outlet line section.

42. (New) Apparatus according to Claim 40, wherein the pressure-limiting valve is displaceable so far that in an open position it frees the flow-through line.

43. (New) Apparatus according to Claim 35, wherein a cooling or heating device is arranged in that region of the flow-through container which protrudes from the microwave chamber.

44. (New) Apparatus according to Claim 35, wherein a connecting piece is arranged in that region of the flow-through container which protrudes from the microwave chamber.